REMARKS/ARGUMENTS

In this Amendment C, claim 1 has been amended, and claim 13 has been cancelled. The current status of the claims is the following: claims 1-7 are pending.

Summary of Claim Amendments

Claim 1 has been amended to recite that the duty ratio regulating system is operable for regulating the duty ratio of a control signal applied to the switch valve according to a frequency of the vibration to be damped. Claim 13 is canceled.

A basis for the amendment to claim 1 may be found, for example, in paragraphs [0020] and [0056]-[0058] of the specification.

Anticipation Rejection

Claims 1-7 and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Muramatsu et al. (USP 6,055,317). This rejection as applied to our amended claim 1 and claims depending therefrom should be traversed for the following reasons:

The Examiner contends that Muramatsu et al. discloses the static pressure regulating system including a switch valve 54 operable alternately connecting said working air chamber to a vacuum source and said atmosphere at a frequency significantly higher than a frequency of vibration to be damped on the basis of the description on col. 5, lines 66-67 and col. 6, lines 1-49.

Contrary to the Examiner's contentions, it s respectfully submitted that Muramatsu et al fails to disclose at least each of the following features of the claim 1 subject matter:

(a) the static pressure regulating system having a switch valve operable to alternately connect the working air chamber to a vacuum source and the atmosphere at a frequency significantly higher than a frequency of vibration to be damped; and

(b) the control signal applied to the switch valve, that depends on the frequency of the vibration to be damped.

In summary, and as discussed in greater detail below, it is respectfully submitted that at least the feature (b) (provided in the current amendment to claim 1) is not present in the cited Muramatsu disclosure. In the cited Muramatsu disclosure, the duty ratio of control signal applied to the switch valves 54, 66 is held within a range of 0.4-0.6, or is changed according to an amplitude of the vibration to be damped

In the first place, Applicant respectfully points out that the cited Muramatsu disclosure does not disclose the switching operation of the switch valve 54 at a frequency significantly higher than a frequency of vibration to be damped. Rather, the cited Muramatsu disclosure discloses that an active damping switch valve 54 is operated to alternatively connect the working air chamber to the vacuum source and the atmosphere at a frequency and phase corresponding to those of the vibration of the object. A duty ratio is held within a range of 0.4-0.6 to prevent generation of higher harmonics components. See cited Muramatsu disclosure at col. 6, lines 1-25).

Put simply, since the active damping switch valve 54 in the device disclosed in the cited Muramatsu disclosure is configured to generate active pressure change in the working air chamber corresponding to that of the vibration to be damped, the frequency of the switching operation of the switch valve 54 is configured to be the same as the vibration to be damped -- as shown in FIG. 3A and 3B, C. That is, the first drive power signal P to be applied to the active damping switch valve 54 is a pulse signal whose period T is equal to that of the waveform of the oscillating force F corresponding to those of vibration to be damped (see col. 14, lines 19-25). In addition, the duty ratio of the first drive power signal P is held within a range of 0.4-0.6 even if the period, amplitude and phase of the waveform of the oscillating force F change (see col. 14, lines 25-39). In the second drive power signal to be applied to the pressure regulating switch valve 66, the duty ratio is determined depending upon the amplitude of the waveform of the oscillating force F.

With respect to the subject matter of claim 1, on the other hand (and referring to the specification for ease of explanation only, with an express intention to not limit the claim scope to what is described in the specification), the switch valve 92 of the static pressure-regulating system is operated to make a static pressure change in the working air chamber so as to induce a substantially static elastic deformation of the said elastic connector for changing a spring characteristics of the elastic connector. Accordingly, the frequency of the switching operation of the switch valve 92 should be significantly higher than a frequency of vibration to be damped. If the frequency of the switching operation is not significantly higher, the active air pressure change will occur in the working air changer.

Further, as discussed in the specification, the duty ratio of the control signal applied to the switch valve 92 is changed or determined depending on a frequency of the vibration to be damped, as recited in claim 7. Namely, the switch valve 92 is controlled to change the spring characteristics of the elastic connector depending on the frequency of the vibration to be damped. For instance, if the low frequency vibration is applied, the spring characteristics of the elastic connector 16 should be soft, so that the duty ratio of the control signal applied to the switch valve 92 is controlled to apply the static pressure corresponding to the atmospheric pressure to the working air chamber 64. On the other hand, if the high frequency vibration is applied, the spring characteristics of the elastic connector 16 should be hard, so that duty ratio of the control signal applied to the switch valve 92 is changed to apply the static pressure corresponding to the negative pressure to the working air chamber 64. See, for example, paragraphs [0020] and [0056]-[0058] of the specification.

As should be clear from the foregoing discussion, the cited Muramatsu disclosure fails to disclose at least the features (a) and (b) of the subject matter recited in the claims.

For at least these reasons, then, the subject matter of claim 1, and claims depending therefrom, is not anticipated by the cited Muramatsu disclosure. Furthermore, neither is the subject matter of claim 1 and dependent claims obvious over the cited Muramatsu disclosure.

CONCLUSION

Applicants believe that all pending claims are allowable and respectfully request a Notice of Allowance for this application from the Examiner. Should the Examiner believe that a telephone conference would expedite the prosecution of this application, the undersigned can be reached at (650) 961-8300.

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP

Alan S. Hodes
Registration No. 38,185

P.O. Box 70250
Oakland, CA 94612-0250
Telephone: (650) 961-8300